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INVERSED VIDEO
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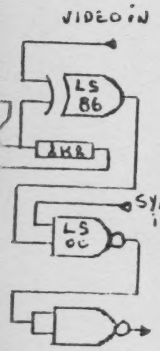

Walter Geeraerts from Vlissingen found an interesting way to conver the video image.
The invertion is done in the IC 74LS86. The signal is put on the exact level by a second NAND INPUT GATE. The obtained signal is inverted and goes via R58 to transistor Q1. The little PC-board can be soldered next to the parallel interface on the aerth-track. Remove the R58 on the side of 17D, pin 13. In the obtained hole comes a wire which goes to 'Video in' of the little PC-board. 'Video out' must be connected with the loose end of R58. 'Sync. in' can be connected to R59, side 10H pin 10. The subminiature switch can be mounted somewhere near 'Video out' at the back of the Sorcerer.
It can be usefull to pep-up the video-signal. This can be done by halving the values of R58 and R59, simply solder the same values parallel on them (1K5 and 2K2).

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CASSETTE-RECORDER TIPS
==========

Problems with the cassetterrecorder does not sound unfammiliar to Sorcerer users. In a recent SCUA newsletter (SCUA = Sorcerer Computer Users of Australia), Mr Rick Miller gave a few tips to improve the cassette-interface, but stated that the troubles are not only due to the cassette-interface only, but rather to the whole analogue system, including the recorder.
I'll mention a few of the hints he described.
-Replace the serial-condensers (C79-C80) in the output-circuit by a larget type, e.g. a tantal condenser of 1uF (or larger), with the +-connection at the resistors.
-Replace the resistor of the input-decreaser (R68 = 100 Ohm) by a resistor of 680 Ohm. This give you also the possibility (mostly) to use the line-output.
-A hint for the cassette recorder now :
You can also use a sterio recorder, when you take the signal from one channel. This sometimes helps, when the setting of the recorder_head is not very good. Set also the tone as low as possible. .

I know also from my own experience, I can also suggest you to disable the automatic-leveling. And if nothing helps, try with an other recorder. A recorder which works rather well is the 'Philips N2235', and as a surplus on this one, you can adjust the tape speed.

****

DIFFERENT WAYS TO ENABLE THE PRINTER.

COMPUDATA, The manufacturer (in licence) of the Sorcerer gave a few ways to start the printer. For those of you who are not very used to the Sorcerer they might be interesting.
In STANDARD BASIC there is no statement to achieve this, but never the less there are two ways to let everything what is normally going to the video, also go to the printer (of course make shure he is ON LINE!).

1. Manually: BYE and CR, you get the monitor prompt).
   SE O=L and again CR, and if you want Basic again : PP (or GO 100) and CR. From this moment everything goes to the printer as well.
   To disactivate the printer use SE O=V.
2. By software: Instead using the monitor command SE O=L you can do it with poke and peek. First find the 'Top of Ram', on address F000 and F001 (dec. -4096 and -4095). The following little program can help.

```
100 TR=PEEK(-4095)*256+PEEK(-4096) :REM TR= Top of Ram
110 IF TR)=32768 THEN TR=TR-65536
120 TR=TR-47
130 FLAG=1 (or FLAG=0): GOSUB 1000
140 ..... your program .....
1000 IF FLAG=1 THEN POKE TR,147: POKE TR+1,233 :GOTO1020
                                    :REM printer on (E993)
1020 POKE TR,240: POKE TR+1,233    :REM printer off (E9F0)
```

Remark from the editor:
After initilising the system, the adress 'TR+1' contains already '233'. So if you want to use the Centronics routine, you can poke '147' on address 'TR' to start, and '240' on 'TR' to stop the printer.

****

MACROCHAR.

If we want to print enlarged characters on the screen (and the printer), we can use the 8x8 dots of the Sorcerer, with this little program from E.J.de Voogd from Vlissingen.

With this subroutine you can max. enlarge eight characters. The inputparameter is 'X$'. To use it, give X$ a value and do a 'GOSUB 10000'.

```
0 REM This part enlarges all the characters.
10 FOR T=32 TO 256 STEP 8
15 X$=""
20 FOR G=T TO 17
30 X$=X$+CHR$(G)
40 NEXT G
50 GOSUB 10000
60 NEXT T
70 END
```

```
90 :
95 :
10000 REM     *** SUBROUTINE MACROCHAR ***
10005 S$="   "
10006 IF LEN(X$))8 THEN PRINT "LINE IS TO LONG!": RETURN
10008 FOR LI-0 TO 7
10010 FOR I=1 TO LEN(X$): K$=MID$(X$,I,1)
10020 KA=PEEK((ASC(K$)-33)*8+LI-1784): G=128
10040 IF KA=)G THEN KA=KA-G: PRINT K$;: GOTO 10060
10050 PRINT S$;
10060 IF G=1 THEN NEXT I
10070 IF G()1 THEN G=G/2: GOTO 10040
10075 PRINT: NEXT LI: PRINT: RETURN
```

****

AUTO-LINEFEED FOR TX-80

The way to give automaticly a linefeed on the fold of listin-paper, version of Walter Geeraerd from Vlissingen.
This is an adjusted copy of the Centronics-driver in the monitor.
To use it: put the printer 'on', and ready on the first line after the fold. Give in the monitor the command SE 0=0 (if the routine is on that spot ofcourse!), thats all, you can start to list, in monitor or in Basic. You can start or stop the printer in Basic with a jump after the routine:
printer on: POKE 260,72: POKE 261,0: A=USR(A)
printer off: POKE 260,80: POKE 261,0: A=USR(A)

If you stopped the printer half-way, and you want to start again on a new sheet of paper, you'll have to disable the routine. Go to the monitor with BYE, then SE 0=V, also set the line-memory at zero by entering at address 001F the value 00. Now you can switch the printer 'on' and again do a SE 0=0000. You can change 'the lines per page' value at address 0029 (the # printed lines + five blanco lines at the end, if you want 61 lines printed, you'll have to put there '66').

The modified Centronics routine:

```
0001 ;
0002 ;     CENTR. PRINTER DRIVER
0003 ;          ALTERNATIVE
0004 ;     (C)  W.GEERAERT    VLISSINGEN-HOLLAND.
0005 ;
0006 ;
0007       PSECT  REL
```

```
                        0008 ;
000A                    0009 LF         EQU     00AH
E01B                    0010 VIDEO      EQU     0E1BH
000D                    0011 CR         EQU     00DH
E993                    0012 CENTR      EQU     E993H
                        0013 ;
                        0014 ;
0000                    0015 START      EQU     $
0000 F5                 0016            PUSH    AF
0001 CD1BE0             0017            CALL    VIDEO
0004 FE0A               0018            CP      LF
0006 2819               0019            JR      Z,CEGBK1-$ ;CENTR.GOBACK 1
0008 F5                 0020            PUSH    AF
0009 DBFF               0021 CENBSY     IN      A,(0FFH)
000B CB7F               0022            BIT     7,A
000D 20FA               0023            JR      NZ,CENBSY-$
000F F1                 0024            POP     AF
0010 F680               0025 OR         80H
0012 D3FF               0026            OUT     (0FFH),A
0014 E67F               0027            AND     07FH
0016 D3FF               0028            OUT     (0FFH),A
0018 F680               0029            OR      080H
001A D3FF               0030            OUT     (0FFH),A
001C 1625               0031            JR      CEGBK2-$   ;CENTR.GOBACK 2
001E 00                 0032            NOP
001F 00                 0033 NUMBLF     DEFB    00H
0020 00                 0034            NOP
0021 3A1F00'            0035 CEGBK1     LD      A,(NUMBLF)
0024 C601               0036            ADD     A,01H
0026 321F00'            0037            LD      (NUMBLF),A
0029 F43D               0038            CP      03D        ;# LINES/PAGE
002B 2016               0039            JR      NZ,CEGBK2-$
002D 3E0D               0040            LD      A,CR
002F CD93E9             0041            CALL    CENTR
0032 CD93E9             0042            CALL    CENTR
0035 CD93E9             0043            CALL    CENTR
0038 CD93E9             0044            CALL    CENTR      ;# LINES TO SKIP
003B CD93E9             0045            CALL    CENTR
003E 3E00               0046            LD      A,00H
0040 321F00'            0047            LD      (NUMBLF),A
0043 F1                 0048 CEGBK2     POP     AF
0044 C9                 0049            RET
0045 00                 0050            NOP
0046 00                 0051            NOP
0047 00                 0052            NOP
0048 110000'            0053            LD      DE,START ;ENABELS ROUTINE
004B C315E6             0054            JP      0E615H
004E 00                 0055            NOP
004F 00                 0056            NOP
0050 111BE0             0057            LD      DE,0E1BH ;DISABELS ROUTINE
0053 C315E6             0058            JP      E615H
0056 00                 0059            NOP
0057 00                 0060            NOP                ;READY
```

Demonstration of the use in Basic:

```
2 REM Demonstration of the printer-subroutine in Basic
4 POKE 31,0: REM # of lines in the counter on '0'
6 POKE 42,5: REM # of lines/page on 5.
10 REM Let's start!
20 PRINT "Test on the video"
30 POKE 260,72: POKE 261,0: A=USR(A)
40 PRINT "Now on the printer to"
50 POKE 260,80: POKE 261,0: A=USR(A)
60 PRINT "Now on the video, and back to the start"
70 GOTO 10
80 END
```

****

LINING THE DECIMALS

Two little programs from J.N. de Ruijter.

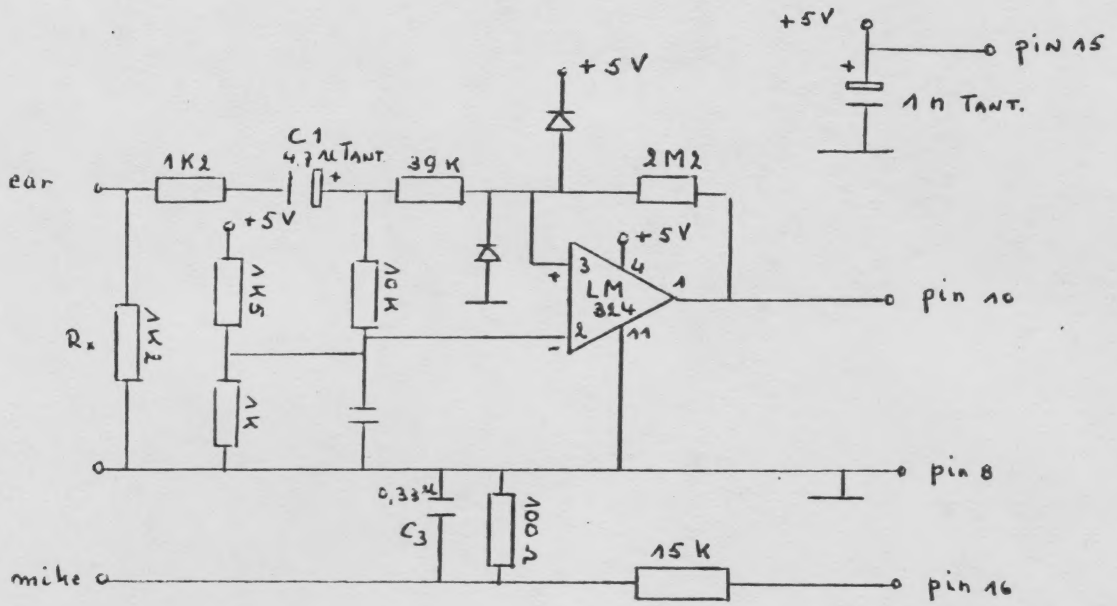
```
50 INPUT A: Y=A: GOSUB 100: PRINT TAB(20+X);A: GOTO 50
100 X=7-LEN(STR$(INT(Y)))
150 IF INT(ABS(Y))=0 AND NOT Y=0 THEN X=X+1
200 RETURN
```

```
10 DEF FN W(X)=7-LEN(STR$(INT(X)))
20 INPUT A: X=A: PRINT TAB(20+FN W(X));A: GOTO 20
```

****

BASICODE-INTERFACE

First of all, what is 'Basicode'?
Two years ago there was a course on televion about microcomputers and the Basic language. In order to enable the participants to follow that course, there was a special offer of differants marks of computers (e.g. Exidy-Sorcerer).
Once the course in Basic was over, the makers of the program started broadhtcasting Basic programs made by the listeners. The users of that specifis mark of computer could record the program on a cassette recorder, and afterwards in their computer. But those programs were only usable for one mark of computer, because all the computers have differant ways to load programs. So a few 'smart gues' developed a way to let all the differant marks of computers load-in the Basic program. Only load them in memory, because all the Basic's differ also!
But once you loaded the program, you can list it on the screen and convert it to your Basic, the changes are mostly minor.
The programs are broadhtcasted in ASCII, and the 'Basicode' just convert the program again into Basic tookens.
Together with the software is a small piece of hardware necessary, the Basicode-interface, which comes between the recorder and the serial-interface on the back of the Sorcerer.



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ROM-PACK Extention
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Thereare a few bugs in our STANDARD BASIC-Pack. Wim de Kreuk and Floor Vogelaar collected a bunch of usefull changes, and packed them into two Eproms, the 'Basic Extention', or better 'Rom-Pack Extention', or 'RE'.
The two Eproms are on sale at 'Sorcerer-days' for f.25,00, fitted free in your Basic-Pack if you want. On the last 'Sorcerer-day' on March 27 in Gouda - Holland, we sold 150 sets of them! They are sold-out for the moment, but be available again at the next meeting.
What they do?
The RE cures in the first place a few bugs in Basic, e.g. the syntax errors after the use of CTRL, CLEAR and cursor arrows. The line-length is fixed, so that the system goes not down when you try to enter a long line. Run-Stop and ESC-buttons do really work, they interup the working, to resume again by hitting any key. RE also contains forteen routines (0-13). Other routines (14-255) can be used, when you put the address of them in memory locations 101 and 102 Hex (257 and 258 dec.).